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Pesticide Fact Sheet Number 12: Anilazine

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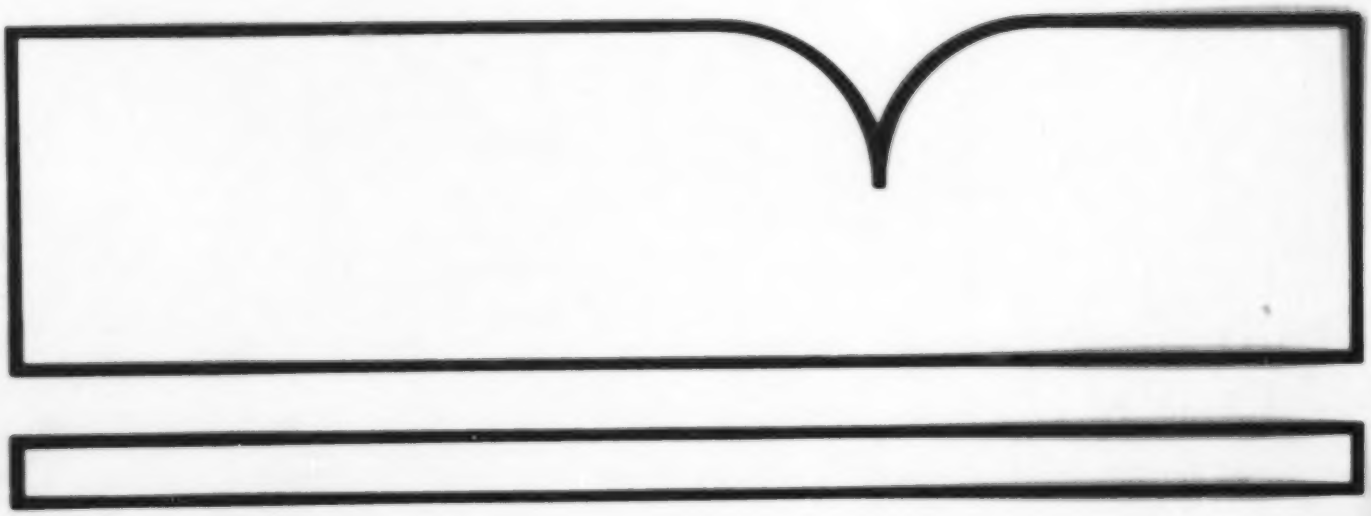

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16. Abstract (Limit: 200 words)

This document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred.

1. Issuance or reissuance of a registration standard,
2. Issuance of each special review document,
3. Registration of a significantly changed use pattern,
4. Registration of a new chemical, or
5. An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

17. Document Analysis a. Descriptors

Pesticides, regulations, Chemical Information Fact Sheet, Use Patterns, Science Findings

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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Office of Pesticide Programs (TS-788C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

Name of Chemical: ANILAZINE
Reason for Issuance:
Date Issued: December 16, 1983
Fact Sheet Number: 12

1. Description of Chemical:
   Generic name: 2,4-dichloro-6-(O-chloroanilino)-s-triazine
   Common name: Anilazine
   Trade names: Dyrene, Direz, Kemate, Triasyn, B-622, Ent-26,058, HCl-C08684, 4,6-dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine.
   EPA Shaughnessy Code: 080811
   Chemical Abstracts Service (CAS) number: 101-05-3
   Year of intitial registration: 1957
   Pesticide type: fungicide
   Chemical family: triazine
   U.S. and foreign producers: Mobay Chemical Corporation

2. Use Patterns and Formulations:
   Application sites: turf, tobacco, ornamentals, various fruits and vegetables
   Types of formulations: dust, wettable powder, granular
   Types and methods of application: foliar application, additive to vinyl plastics
   Application rates: 1.0 to 3.0 lb active ingredient per acre
   Usual carriers: water

3. Science Findings:

   -Summary science statement:
   Extensive data gaps exist for Anilazine. No human toxicological hazards of concern have been identified in studies reviewed by the Agency for the standard. The Agency has no information that indicates continued use will result in any unreasonable adverse effects to man or his environment during the time required to develop the data.

   Chemical characteristics:
   Anilazine is a white to tan crystalline solid. It is stable in neutral to slightly acidic media and subject to hydrolysis. It has a melting point of 159-160 C. The chemical does not present any unusual handling hazards.

Toxicological characteristics:

Anilazine is considered a skin sensitizer. It demonstrates low toxicity from oral routes of exposure. The chemical has been found to be highly toxic to fish and aquatic invertebrates.

Acute toxicology results:

Oral LD_{50} in rats: 2.71 g/kg body weight (28-33 days) (Tox Category III)

Oral LD_{50} in rabbits: 460 mg/kg (Tox Category II)

Oral LD_{50} in dogs: MLD > 7.1 g/kg (Tox Category IV)

Oral LD_{50} in monkeys: MLD > 3.2 g/kg (Tox Category III)

Dermal LD_{50} in rabbits: > 9.4 g/kg (intact skin) (Tox Category III) > 2.5 g/kg (abraded skin)

Eye irritation in rabbits: Corneal opacity in 3/6 animals, iris irritation, redness, chemosis which persisted through day 21 (Tox Category I)

Chronic toxicology results:

Rat and mouse oncogenicity studies were negative at dose levels tested (500 and 1000 ppm). Clinical toxic signs were noted at both doses in second year.

Major routes of exposure:
dermal

Environmental characteristics:

Microbial breakdown:

Anilazine is degraded rapidly in both moist and dry soils under aerobic conditions, with half-lives of 0.5 and 2.5 days, respectively.

Adsorption and leaching in basic soil types:

Anilazine is classified to be of intermediate mobility in a sandy loam and of low mobility in agricultural sand, sandy clay loam, silt loam and silty clay soils based on soil TLC.

Ecological characteristics:

Hazards to fish and wildlife:

Avian dietary LC_{50}: Anilazine did not cause 50% mortality when birds were exposed to a diet containing 5000 ppm for > 10 to <100 days.

Avian oral LD_{50}: > 2,000 mg/kg

Fish LC_{50}: 0.14 to 0.326 ppm (highly toxic)

Aquatic invertebrate LC_{50}: 0.270 ppm (highly toxic)

Tolerance assessment:

Due to the absence of pertinent data, the Agency is unable to complete its reassessment of anilazine tolerances.

List of present tolerances:

Crop	ppm
Blackberries	10.0
Blueberries	10.0
Celery	10.0
Cranberries	10.0
Cucumbers, including pickles	10.0
Dewberries	10.0
Garlic	1.0
Onions, dry bulb	1.0
Onions, green	10.0
Potatoes	1.0

Problems known to have occurred from use:

The Pesticide Incident Monitoring System (PIMS) includes a report of dermatitis and delayed dermal hypersensitivity in several laborers hand harvesting anilazine treated strawberries and tomatoes in Tennessee. With treatment, recovery required at least one week, but symptoms recurred with increased severity upon re-exposure.

4. Summary of Regulatory Position and Rationale:

Use Classification: General

Unique label warning statements:

All product labeling is required to bear the statement "Protective clothing should be worn during periods of exposure, such as, during application or when contacting treated foliage.".

Manufacturing-use labels must contain the statements "This pesticide is toxic to fish and aquatic invertebrates. Do not discharge into lakes, streams, ponds or public water unless in accordance with an NPDES permit. For guidance, contact your Regional Office of EPA."

All end-use labels, except those for use on cranberries, must contain the statements "This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water or wetlands. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of wastes."

All end-use labels for use on cranberries must contain the statements "This pesticide is toxic to fish and aquatic invertebrates. Movement from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of wastes."

All end-use labels must contain the following statements:
"Do not use on seed crops intended to be used for feed or forage. Do not graze treated areas."
"Do not reenter treated fields within 24 hours following application of this product."

5. Summary of major data gaps:

Product Chemistry (Due August 1984)
- Product identity
- Analysis and certification of product ingredients.
- Physical and chemical characteristics

Residue Chemistry (Due June 1986)
- Nature of residue and analytical method for plants and animal residues
- Storage stability data
- Crop field trials on all crops except cucumbers, summer squash, dewberries, loganberries, and raspberries
- Processed food/feed studies on potatoes and tomatoes

Environmental Fate (Due December 1987)
- Hydrolysis
- Photodegradation
- Metabolism studies
- Mobility studies
- Soil and aquatic dissipation studies
- Accumulation studies

Toxicology (Due December 1987)
- Inhalation LC_{50} - rat
- 21-day dermal
- 90-day dermal (vinyl additive use only)
- 90-day inhalation - rat
- Chronic toxicity - rodent and non-rodent
- Teratogenicity - 2 species
- Reproduction - 2 generation
- Mutagenicity testing
- General metabolism

Reentry Protection (Due December 1987)
- Foliar dissipation
- Dermal exposure

Wildlife and Aquatic Organisms (Due December 1987)
Avian oral LD_{50}
Avian dietary LC_{50} - upland game bird and waterfowl
Acute LC_{50} - freshwater invertebrates
Fish early life stage and aquatic invertebrate life-cycle - invertebrate and fish

6. Contact person at EPA:
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